

MEETING SUMMARY

CALIFORNIA WATER PLAN: UPDATE 2013 GROUNDWATER CAUCUS MEETING MAY 19, 2011 9:00 A.M. – 12:30 P.M. CALEPA COASTAL HEARING ROOM

CALEPA, COASTAL HEARING ROOM 1001 I STREET, SACRAMENTO, CA

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Attendance (39):	

Action Items

- Work Team: Look at scalability of recommendations to address responsibility for groundwater management at local level.
- Work Team: Post template for both Policy/Guidance and Informational Topics on website.
- Work Team: Look at some Federal representatives for Caucus (USGS, USFS)
- <u>Caucus Members</u>: Read "Uncommon Innovation: Developments in Groundwater Management Planning in California." May 2011. Water in the West Working Paper. Woods Institute, Stanford. <u>www.stanford.edu/group/waterinthewest/cgi-bin/web/sites/default/files/Nelson_Uncommon_Innovation_March_2011.pdf
 </u>
- <u>Caucus Members:</u> Provide responses to both Policy/Guidance and Informational Topics worksheet.

Welcome and Caucus Charter

Lisa Beutler, Executive Facilitator for the Water Plan, reviewed the meeting agenda which includes a walk-through of the Water Plan scope. The larger framework identifies the integration links with groundwater content and the opportunities to leverage the work and tradeoffs associated with different conversations. The agenda and all other meeting materials are available online at: www.waterplan.water.ca.gov/materials/index.cfm?subject=may1911.

Ms. Beutler provided an overview of roles and responsibilities for caucus members, including attendance, communication and decision-making aspects. She noted that members serve at the pleasure of the executive sponsor and that additional members may be recruited to bring in additional perspectives. Members are asked for a commitment to attend and participate in caucus meetings and to act as a liaison to share information with others. It was noted that observers are invited to participate as well.



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In discussing the section of the charter addressing internal and external communications, members are invited to share meeting summaries. The summaries will not attribute comments to specific individuals. Also, the Water Plan may eventually make a recommendation that does not reflect the direction in which you, or your organization, are headed. It would be appreciated if you could notify the facilitator or team lead if your group chooses to develop independent recommendations. Areas of disagreement will not affect the integrity of this conversation.

Introductions were then made around the room and with acknowledgment of webcast participants.

Overview of California Water Plan: Update 2013

Paul Massera, Program Manager for Update 2013 welcomed caucus members and expressed his appreciation for their participation. Mr. Massera began on overview of the broader California Water Plan effort, with an emphasis on how groundwater input will feed into the overall approach. It was noted that the suggested groundwater enhancements reflect the past 10 years of policy and technical coordination and collaboration.

Update 2009 provides a very good foundation for Update 2013, which builds on the existing strategic plan framework and on the extensive coordination and collaboration with multiple groups and interests. Foundational components of Update 2013 represent key features of the Water Plan, from Update 2009 and before, that will continue. This includes the following:

- Strategic Plan: with strategic recommendations published in Volume 1
- Water portfolios: depicting historical water use and balance against supply for the years 1998 2009. This will include groundwater data and change in storage.
- Regional Reports: with an expanded regional outreach process for more robust and region-specific report. Groundwater information will be an important component of the regional reports.
- Scenarios: looking at three scenarios to provide both qualitative and quantitative assessment of Resource Management Strategies for different futures
- Resource Management Strategies (RMS): A very broad spectrum of actions and policies with several that relate directly to groundwater. For each strategy, an estimate of benefits and magnitude of cost could be developed.
- State and Federal Companion Plans: policy documents that inform integrated water management.

New content areas for Update 2013 cover a variety of ideas and topics and are rather significant:

- Finance planning: developing an integrated water management finance plan. Will be an important nexus for work here today in terms of funding and criteria, as well as governance in terms of finance.
- Better integration of flood management planning
- New water technology and research and development



Outreach venues for Update 2013 support coordination at different levels, including:

- State Agency Steering Committee, now at 30 agencies
- Public Advisory Committee
- Tribal Advisory Committee, with 40 Tribal communities who have identified participants
- Topic Caucuses
- Regional Outreach
- Statewide Water Analysis Network, providing technical input
- Annual Plenary

This represents a great deal of coordination. The objective is to ensure that we can build a bridge between the policy and technical recommendations and decision-makers. Mr. Massera thanked Abdul Khan, Dan McManus, Tim Parker and Vicki Kretsinger for their outstanding leadership in supporting the groundwater caucus effort.

Planned Enhancements for Groundwater Content

Abdul Khan provided a broad outline of the groundwater enhancement initiative. His introduction included the rational for the objective, which is to expand information about statewide and regional groundwater conditions to better inform ground management actions and policies. The premise for developing information on groundwater resources is based on the existing structure of laws and regulations. For example, a critical issue is water rights and it is assumed that those laws and regulations will not change within the timeframe of Update 2013. Also, deliverables will use the best existing and available data; new information will not be developed at this time except for one deliverable, which is the estimate of change in groundwater storage.

The Work Plan development process involved extensive internal discussion from the Divisions of Statewide Integrated Water Management (SIWM) and Integrated Regional Water Management (IRWM) and the four DWR Regional Offices. Originally, 17 deliverables were identified for the long-term from which 8 deliverables were selected as feasible for Update 2013. These 8 deliverables have been reviewed by the Public Advisory Committee and State Agency Steering Committee.

Dan McManus presented more detailed information on the work plan. The approach is to leverage existing groundwater management plans and information including that from the California Statewide Groundwater Elevation Monitoring program. Information will also be brought forward from the IRWM plans, the Regional Reports and outreach to identify local and Tribal water plans that may have information on groundwater conditions and management. Also, Urban Water Management Plans (UWMPs) are being updated and are due to be submitted in July. One-half of the State's municipal water is supplied by groundwater. Groundwater related information from UWMPs will also be included as applicable.

Groundwater data will also look at water transfers and conjunctive use, as well as other modeling efforts (such as USGS and local modeling efforts). Information will be summarized for three areas: brief physical description, overview of aquifer conditions, and groundwater management activities. Hydrographs will illustrate key seasonal and long-term changes seen in both shallow



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and deeper wells. Mr. McManus noted that is will be challenging to find representative hydrographs. He observed that dot maps seem helpful for showing data, providing a quick visual on conditions. Subsidence related information will also be compiled and presented as available. The management activities include plans, ordinances and monitoring efforts. Data will mostly be presented on an annual basis.

Another aspect of the groundwater initiative will be identifying data gaps and data needs. Deliverables also include developing estimates of annual change in groundwater storage. Definitions and clarifications on the related terms is provided in the workbook, starting on page 46, consistent with information contained in B118. One major goal for the Groundwater Content Enhancement is to find a way to automate some of the calculations for determining spring-tospring changes in groundwater storage. Staff in DWR is finalizing a GIS based procedure and tool to do that. The procedure and the tool are being internally vetted at this time within DWR. After the methodology has been hammered out in the next few months, it will be made available for review by the Groundwater Caucus and Statewide Water Analysis Network.

Another deliverable, case studies would identify areas that illustrate the benefits and challenges in the application of groundwater data, information, and management strategy. This would be helpful to compile lessons learned. It would be very helpful to show one or two groundwater studies from each hydrologic region. Lessons learned would describe the challenges and sticking points that were encountered and the approaches used to work through them.

Another deliverable is to show available storage space that can be used for recharge or conjunctive management, as well as the associated water supply availability and constraints. One constraint acknowledged is cost versus benefit. Integrated Flood Management may also provide a potential supply for groundwater banking. The groundwater work team will try to find information and studies related to opportunities for groundwater recharge by prolonging peak flood events.

Many teams and groups are working together in this endeavor and the stakeholders are pleased to see this Water Plan initiative and the interest on groundwater data. The consensus is that this is an ambitious endeavor and some planned deliverables may need to be phased beyond 2013.

Discussion:

Question: Will the hydrographs look only at changes in groundwater elevation or will there be some consideration of base flows with comparison of surface water changes?

Response: Supply and surface water are important factors in changes for groundwater elevation. It will be important to characterize the type of water year. A two-pronged approach is to look at changes in groundwater elevation and storage for Update 2013. The long-term goal is to develop a groundwater hydrologic budget for every groundwater basin. This will be supported by the case studies for detailed groundwater budgets, which could generate additional support and resources.

Question: The CASGEM effort involves not only elevation reporting process, but also the reporters and structural management and definition of boundaries. Is there any forwardlooking approach on potential management options that might result from groundwater basin management?



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- Response: This tool should be helpful for local decision-makers. The monitoring will also report management activities, issues, and data gaps. Ultimately, it will be a local decision about which tools to use for managing the local resources.
- Question: For the data collection effort, information and data will be collected from different plans and existing efforts. As some point, there will be conflicts in the data. Also, as the understanding of basin is developed, there will need to be feedback from local groups to confirm that understanding based on localized data. Will data and analysis be requested from local entities and how will data be evaluated?
- Response: With different programs collecting data, it is important to have tools to integrate and evaluate that data. Also, hydrologic regions overlay county, IRWM and groundwater basin boundaries. The question will be: What is the most useful way to roll up data? IRWM groups will be contributing a significant amount of data as it becomes available.
- Comment: It might be helpful to have the caucus generate policy recommendations on having local groups standardize their processes. Then groups would be required to submit their information in certain, specific ways.
- Response: This effort is intended to start the dialog about the best way to present the information, so that it is useful and understandable. It would be helpful to have some standards for presenting data in a number of ways that can be useful. It's important not to limit people, since there are unique situations that need to be addressed.
- Comment: The CASGEM program is voluntary and only monitors elevation. Staff members are working with local agencies to bring them in as the monitoring entity. DWR has some other requirements in prioritizing basins and conducting basin assessments and CASGEM is not currently working on that. The hope is that the Water Plan and Groundwater Caucus will not get ahead of CASGEM, but that effort will evolve together in a coordinated manner.
- Comment: Monitoring is something that needs to be done at the local level. It's helpful to encourage other areas to step up. "One size fits all" requirements won't address the diversity of conditions. Introducing mandates will further complicate matters.

Kamyar Guivetchi, Chief, Division of Statewide Integrated Water Management reminded Caucus members that a central goal of Update 2009 was to promote IRWM, with the State providing technical and financial assistance to empower the regions to make local decisions. The Water Plan recognizes that the size and diversity of California doesn't warrant one-size-fits-all solutions. It is not useful for the State to promote and recommend actions that might not be applied across the state in the same way because of the differences in the regions. Rather, the State should identify the intended outcomes of its policies and to empower regions to use strategies that they think will get to the given outcomes. Empowerment is the key. The State needs to articulate and convey the needed outcome and allow the regions to determine the best path to get there.

- Comment: It is important for participants to discuss the areas of overlaps in their responsibilities, to see how the pieces fit together.
- Comment: It would be helpful to acknowledge up front that groundwater management in California is local. Language should describe groundwater management in the state, before describing this section of the plan being a resource or reference document. Also, consider adding language on empowerment.



Response: Paul Massera noted that scalability of recommendations may be something to help allay concerns.

Comment: Two deliverables would be especially helpful: (1) a very clear set of graphics that explain differences in groundwater – since it is hard to describe what people can't see and (2) clear definitions of groundwater basin locations – which will help illustrate the relationship to water elements in General Plans.

Overview of Recent Groundwater-Related Policy Publications

Tim Parker, Groundwater Resources Association (GRA), provided an overview of reports and recommendations relating to groundwater. Within the last ten years, the GRA became more involved with policy-making and holding a legislative symposium.

Hydrologically, groundwater is connected to surface water; however in the law there is a distinction. Groundwater is also described as percolating groundwater v. subterranean streams, which creates some challenges. Early issues were sea-water intrusion and over-pumping and subsidence. Adjudications followed in many southern California basins. Subsequent legislation included AB 3030 and SB 1938. More groundwater basins are being managed under those statutes than adjudications. Additionally, about a dozen special districts have groundwater mandates or authorities and around half the counties have ordinances prohibiting groundwater exports without a permit.

The distribution of water supplies involves extensive infrastructure and moving supplies through the Delta, which is facing increased constraints. As a result, there is a greater reliance on groundwater. Legislation in 2009 was introduced to address some of the Delta constraints and a number of documents on water issues have been published in the last few years by the Legislative Analyst's Office, Public Policy Institute of California, and Woods Institute at Stanford University. Groundwater issues have also been discussed by the Assembly Committee on Water, Parks, and Wildlife, the third draft of the Delta Plan, and the Groundwater Management Framework released by the Association of California Water Agencies. Mr. Parker closed by describing some of the common themes across the documents. He noted that the GRA would host a symposium on June 14th addressing "Groundwater-Surface Water Interaction: California's Legal and Scientific Disconnect."

Homework Assignment: Read "Uncommon Innovation: Developments in Groundwater Management Planning in California." May 2011. Water in the West Working Paper. Woods Institute, Stanford University. This document includes a review of 50 local groundwater management plans.

GRA Contemporary Groundwater Issues Council

Vicky Kretsinger, GRA, recapped a new initiative developed about a year ago to continue a biennial groundwater conference (previously sponsored by the University of California Water Resources Center). A new Council is being established in conjunction with the conference



planning. GRA is a statewide organization with about 1,200 members. The vision is consistent with the objectives for the Water Plan Groundwater Content Enhancement, focusing on key information, education, and networking needs related to groundwater issues.

On April 26, 2011, the Council met to prioritize and discuss groundwater issues. The key topics that emerged from the group discussions are: data management, conjunctive use, water quality impacts, managed aquifer recharge, value of water and regulatory consistency, and contaminant cleanup. The GRA Board subsequently discussed potential GRA programming and actions on key issues. As recommended by the Board, GRA members have provided substantial support in developing the Groundwater Caucus materials.

Groundwater Caucus Scope of Work

Tim Parker and Abdul Khan reviewed the charge for the Caucus (described on page 18 of the workbook). A key responsibility is that the Caucus will provide guidance to the project team and update the Water Plan Public Advisory Committee. The planned groundwater deliverables will be based on the best, already-exiting data and information that can be obtained. Caucus members may also provide input on the Scope of Work.

Topics for discussion are broken into two main categories: policy/guidance-related and informational. The Caucus will focus on the policy and guidance aspects. For informational items, Caucus members were asked to identify a resource person who can provide input to help develop and improve content. Other information, such as reports or studies, would also be helpful. A template will be provided for submitting that information.

Starting on page 21 of the workbook, Mr. Khan recapped the first five groundwater deliverables and called out the policy/guidance questions for discussion (a decision was made not to have discussion on deliverables six through eight at this Caucus because of time constraints):

- #1: Compile groundwater information. Decision-makers represent the key audience for this information, including the legislature, administration, and other organizations such as ACWA. Information must be presented in a way that is accessible and that assists decision-makers in sorting out what they need to do.
- #2: Summarize groundwater conditions and management activity. The primary audience in this case will be regional decision-makers and staff preparing analytical reports. Pages 26-27 provide examples for presenting this information. The plan is that each Regional Report will include a technical groundwater memorandum as an appendix.
- #3: **Identify data gaps.** Data collection is often significantly reduced as a result of budget cuts. What are the implications of a lack of data? What policies go unanswered without relevant information? This has tremendous policy implications in terms of getting the best outcomes for managing groundwater resources
- #4: **Annual change in storage.** Page 33 example of how this might be shown.



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#5. **Present case studies**. What considerations should be used in selecting case studies? Lessons learned and overcoming challenges are two important areas to highlight. Pages 37 and 39 provide two examples of how case studies can be presented. The concept of the case studies goes beyond data to looking at what's been successful. What types of *governance structures and management and financing approaches* have made groundwater management more effective? This gets at options for addressing barriers.

Comment: What is important for the case studies is to define effective groundwater management. That helps establish the measure for tracking the benefits of different approaches.

Comment: In selecting ACWA case studies, the objective was to show various conditions that required alternative strategies for functional and organizational behaviors. Different conditions exist throughout the state. The case studies should highlight adaptive approaches that help manage different political, geo-physical, and hydrological realities.

Caucus members were asked to discuss the policy questions related the five deliverables in small group discussions. Information was reported back to the larger group as follows:

Group Reports

#1: Compile groundwater information

What other information should be considered and compiled?

On page 21, the last bullet should be modified to include a broader inventory of the models used in groundwater management and to identify the software or platform used and the coverage area for each of those models.

Also, it would be helpful to understanding or cataloging the governance, institutional or decision-making structures within these various plan components. There should also be discussion on where there are county groundwater ordinances, include land use and General Plans with groundwater components; identify and describe conditions for adjudicated groundwater basins. Identify that there are a number of institutional and agency data sources, such as B118, USGS Central Valley Groundwater Model, and NASA/Grace technology (summarized in a paper by UC Irvine).

There needs to be some compilation of water quality information, with a definition of the water quality issues and management structures within the hydrologic regions. This would point to the Basin Planning documents prepared by the regional Water Boards. The presentation format on page 23 works: starting with the region and then drilling down to basin and IRWM and then how the other plans fit into that. At that level of detail, it is possible to create adequate information for local planning groups.

In final document, would like to see a computerized overlay process. A map of state, basins and sub-basins – then seeing how the IRWMs, UWMPs, CASGEM, groundwater management plans overlay that. Also, Federal lands are missing from this and represent some major watersheds where there is currently not much information.



#2: Summarize groundwater conditions and management activities

How would you organize, synthesize and report the groundwater content that is developed?

Some of the things to consider is how will you be able to access and organize the information? Physical v. political boundaries need to be considered, such as basin and subbasin boundaries, other political boundaries (county, institutional, etc.) and aquifer-based boundaries. Information could be organized according to types of surface- and ground-water interface. There was discussion about watersheds and sub-watersheds, which led to a new phrase of the groundwatershed.

Scalability also needs to be considered and assurances made that terminology is being defined the same way. Water supply sources have to characterized as well: imported v. area of origin, surface water v. groundwater, seasonal dependence on groundwater, management institutions and management plans. Management activities need to include existing and planned projects (conservation, recycled water recharge), susceptibility to subsidence, water quality challenges (nitrates and salts). Recharge mapping and permeability management, LID practices in the groundwatershed, basin or bedrock, etc. These are different options to organize data and information. The term "basin" needs clear definition since it could relate to both surface water mapping and groundwater mapping.

Data collection and management integration is needed for state and federal agencies (GAMA, DWR, DPH, USGS, etc.). To synthesize data, need to look at both State and local data activities, identify key well hydrographs for seasonal long-term trends, same for quality – using the GAMA program, and integrating surface- and groundwater data management, and groundwater budget. Reporting options include the Water Plan and a Google Wiki interactive GIS-internet portal format.

#3: Identify data gaps

What options for presenting the information?

This discussion went in a number of different directions, producing good outcomes. The group agreed that presentation needs to be a visual, easily-interpreted – focusing on spatial data (mapping) rather than using a table format. The group also discussed the different units at which data may be reported. There was general agreement for sticking with the groundwater basin units (as described in B118 and updated with local information) as consistent spatial units for discussing data gaps.

Other spatial-related information needs to be tied in. For example, IRWM areas overlie these basins. Another example is coverage areas for reporting entities in the CASGEM program. The overlays could be shown as cross-hatched or in other formats. Several areas for further discussion include the huge challenge of handling the data that will be coming from different sources.

The reliability and accuracy of data, and the level of confidence, need to be carried forward – coming up with ways to show the level of confidence and sources of inaccuracies in the data. That needs to be shown along with the data and data gaps. The quality of the data is itself a



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data gap. Another issue that will be interesting to characterize is how much water quality data gets carried forward. Those data gaps may be even more difficult to represent than those in water quantity and condition. Side bars can be helpful. If you could describe the perfect collection of data, it would be easier to identify what is missing.

#4: Annual change in storage

Group questions: What is the change in storage used for in the context of the Water Plan? What are the types of interpretations made and what type of data will this information be based on?

How should information be presented?

- Data used in calculating change in storage must be qualified. Data quality will vary across regions. There should be some coding for confidence. For example categories could be coded (A, B, C) or (red, yellow, green).
- Information must be developed based on Bulletin 118 basins and sub-basins and then
 rolled up to appropriate level for the Water Plans (e.g., IRWM, hydrologic region, etc.).
 The actual data must be developed at the sub-basin level to provide a certain level of
 accuracy.
- The proposed five-year period may not be representative of the long-term operation of each of the groundwater basins. There needs to be some longer-term representation of the change in storage and an appropriate level of interpretation made on a longer-term basis.
- Some groundwater basins are operated intentionally to keep groundwater levels at certain elevations. For example, keeping groundwater levels down because of contamination issues. Those need to be appropriately presented or qualified in discussing the change in storage in the Water Plan.
- Use of the Water Data Library to calculate the change in storage may not necessarily yield the same interpretation in different basins. For example, higher water-levels nearer the coast may consist of saline water. Does this accurately reflect the usable storage available?

#5: Present case studies

How should case studies be selected and presented?

Case studies are a really good idea and they should be fairly in-depth, not just narratives but also include an analysis of what's going on. It would be good to select case studies that represent both water quality and water quantity issues. Whatever gets covered, there should be a uniform and comparable approach, so that studies have same elements. While it might make sense to do the case studies by hydrologic region, it might also make sense to do them statewide.

There are many different factors that affect groundwater management, such as: land use, infrastructure, hydrology, weather, geography, economics, institutional structure and history,



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demographics, size of farms, etc. These are other than the hydrogeology that makes regions similar or different. In terms of selection, the case studies should be representative and should be summarized in a way that offers lessons both to other practitioners in the state and to decision-makers solving or addressing similar challenges.

Attendance (39):

Groundwater Caucus Members (26):

- 1. Danielle Blacet, Association of California Water Agencies
- 2. James Cornelius, Sutter County Resource Conservation District
- 3. Anton Favorini-Csorba, Legislative Analyst's Office
- 4. **Maurice Hall,** The Nature Conservancy
- 5. Jack Hawks, California Water Association
- 6. Steve Haze, Sierra Resource Conservation District
- 7. **Barbara Hennigan,** Butte-Sutter Basin Area Groundwater Users
- 8. Chuck Jachens, Bureau of Indian Affairs
- 9. Jay Jasperese, Sonoma County Water Agency
- 10. John Kingsbury, Mountain Counties Water Resources Association
- 11. Nick Konovaloff, Regional Council of Rural Counties
- 12. Sandy Kozlen, Carmichael Water District
- 13. Vicki Kretsinger Grabert, Groundwater Resources Association of California
- 14. Karl Longley, California Water Institute, Fresno State
- 15. Kathy Mannion, Regional Council of Rural Counties
- 16. Eugene Massa, Jr., Colusa Basin Drainage District
- 17. **Danny Merkley**, California Farm Bureau Federation
- 18. **David Orth.** Kings River Conservation District
- 19. James Nachbaur, Legislative Analyst's Office
- 20. Saguib Naimus, RMC-WRIME
- 21. Valerie Nera, California Chamber of Commerce
- 22. **Tim Parker**, Groundwater Resources Association of California
- 23. Wendy Phillips, League of Women Voters of California
- 24. **Tito Sasaki**, Sasaki Vineyards and California Farm Bureau Federation
- 25. Jennifer Svec, California Association of Realtors
- 26. Ali Taghavi, RMC-WRIME

State Agency Steering Committee Members (3):

- 1. **Bruce Gwynne**, California Department of Conservation
- 2. **Ben Rubin,** Governor's Office of Planning and Research
- 3. Al Schiff, California Public Utilities Commission



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DWR (10):

- 1. Kamyar Guivetchi, Chief, Division of Statewide Integrated Water Management (DSIWM)
- 2. Paul Massera, Update 2013 Program Manager
- 3. Lewis Moeller, Update 2013 Project Manager
- 4. **Abdul Khan,** DISWM, Co-Lead Groundwater Caucus
- 5. Jose Alarcon, DSIWM, Lead Water Quality
- 6. Charlie Kratzer, IRWM
- 7. Mary Scruggs, IRWM/CASGEM
- 8. **Tito Cervante,** Northern Regional Office
- 9. **Dan McManus**, Northern Regional Office, Co-Lead Groundwater Caucus
- 10. Mark Nordberg, Northern Regional Office

Facilitation Team: Lisa Beutler and Joshua Biggs, MWH; Katie Cos and Judie Talbot, Center for Collaborative Policy, CSUS